

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s) : Gordon Moore ALLAN et al.  
Filed : Herewith  
Serial No. : Divisional of 09/347,594  
For : PORCINE CIRCOVIRUS AND PARVOVIRUS

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**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, DC 20231  
Dear Sir:

Prior the issuance of the first Official Action and for use in the filing fee calculation for this application, please amend the above-identified application, without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows:

**IN THE SPECIFICATION:**

Please amend the specification, without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows:

Page i (first page of application), first line of text under title, change "This application claims" to:

--This is a divisional application of allowed application serial no. 09/347,594, filed July 1, 1999, and claiming--.

Page 2, line 36, please change "V9700218" to --V 97100218--.

Page 9, line 28, please delete "a".

Page 9, line 33, please change "valencey" to --valency--.

Immediately after page 36 and before the first page of claims (page 37), if appropriate, please insert the enclosed pages identified as --Sequence Listing--.

**IN THE CLAIMS:**

Please add the following claims, without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents:

--38. A vaccine for eliciting an immunological response against porcine parvovirus and porcine circovirus comprising at least one porcine parvovirus antigen and at least one porcine circovirus antigen, and a veterinarily acceptable vehicle or excipient.

39. A vaccine of claim 38 wherein the porcine circovirus antigen comprises at least one porcine circovirus type II antigen.

40. A vaccine of claim 38 wherein the porcine parvovirus antigen is selected from the group consisting of an attenuated porcine parvovirus, an inactivated porcine parvovirus, a subunit of porcine parvovirus, and a vector that contains and expresses *in vivo* a nucleic acid molecule encoding the porcine parvovirus antigen; and the porcine circovirus antigen is selected from the group consisting of an attenuated porcine circovirus, an inactivated porcine circovirus, a subunit of porcine circovirus, and a vector that contains and expresses *in vivo* a nucleic acid molecule encoding the porcine circovirus antigen.

41. A vaccine of claim 40 wherein the vector that contains and expresses *in vivo* a nucleic acid molecule encoding the porcine parvovirus antigen is selected from the group consisting of a DNA plasmid, a linear DNA molecule, and a recombinant virus; and, the vector that contains and expresses *in vivo* a nucleic acid molecule encoding the porcine circovirus antigen is selected from the group consisting of a DNA plasmid, a linear DNA molecule, and a recombinant virus

42. A vaccine of claim 39 wherein the porcine circovirus type II antigen is at least one antigen of a porcine circovirus type II deposited at the ECACC selected from group consisting of: porcine circovirus type II accession No. V97100219, porcine circovirus type II

accession No. V97100218, porcine circovirus type II accession No. V97100217, porcine circovirus type II accession No. V98011608, and porcine circovirus type II accession No. V98011609.

43. A vaccine of claim 38 wherein the vaccine further comprises an additional antigen of another porcine pathogen.

44. A vaccine of claim 43 wherein the additional antigen of another porcine pathogen is selected from the group consisting of: an antigen of PRRS virus, an antigen of *Mycoplasma hypopneumoniae*, an antigen of *Actinobacillus pleuropneumoniae*, an antigen of *E. coli*, an antigen of Atrophic Rhinitis, an antigen of Pseudorabies virus, an antigen of Hog cholera, an antigen of Swine Influenza, and combinations thereof.

45. A vaccine of claim 43 wherein the additional antigen of another porcine pathogen is an antigen of PRRS virus.

46. A vaccine of claim 39 wherein the porcine circovirus type II antigen is an attenuated virus porcine circovirus type II.

47. A vaccine of claim 46 further comprising a veterinarily acceptable adjuvant.

48. A vaccine of claim 46 further comprising a freeze-drying stabilizer.

49. A vaccine of claim 39 wherein the porcine circovirus type II antigen is an inactivated porcine circovirus type II.

50. A vaccine of claim 49 further comprising a veterinarily acceptable adjuvant.

51. A vaccine according to claim 38 wherein the antigen of porcine circovirus comprises antigens of a plurality of porcine circoviruses.

52. A vaccine of claim 39 wherein the vaccine further comprises an additional antigen of another porcine pathogen.

53. A vaccine of claim 52 wherein the additional antigen of another porcine pathogen is selected from the group consisting of: an antigen of PRRS virus, an antigen of *Mycoplasma hypopneumoniae*, an antigen of *Actinobacillus pleuropneumoniae*, an antigen of *E. coli*, an antigen of Atrophic Rhinitis, an antigen of Pseudorabies virus, an antigen of Hog cholera, an antigen of Swine Influenza, and combinations thereof.

54. A vaccine of claim 53 wherein the additional antigen of another porcine pathogen is an antigen of PRRS virus.

55. A vaccine of claim 39 wherein the porcine circovirus type II antigen comprises an antigen encoded by a porcine circovirus type II open reading frame (ORF) selected from the group consisting of ORFs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13.

56. A vaccine of claim 39 wherein the porcine circovirus type II antigen comprises an antigen encoded by a porcine circovirus type II open reading frame (ORF) selected from the group consisting of ORFs 4, 7, 10, and 13.

57. A vaccine of claim 39 wherein the porcine circovirus type II antigen comprises a vector that contains and expresses *in vivo* an antigen encoded by a porcine circovirus type II open reading frame (ORF) selected from the group consisting of ORFs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13.

58. A vaccine of claim 39 wherein the porcine circovirus type II antigen comprises a vector that contains and expresses *in vivo* an antigen encoded by a porcine circovirus type II open reading frame (ORF) selected from the group consisting of ORFs 4, 7, 10, and 13.

59. A vaccine of claim 57 wherein the vector is selected from the group consisting of a DNA plasmid, a linear DNA molecule, and a recombinant virus.

60. A vaccine of claim 58 wherein the vector is selected from the group consisting of a DNA plasmid, a linear DNA molecule, and a recombinant virus.

61. A vaccine of claim 59 wherein the recombinant virus is selected from the group consisting of pig herpes virus, porcine adenovirus, and poxvirus.

62. A vaccine of claim 60 wherein the recombinant virus is selected from the group consisting of pig herpes virus, porcine adenovirus, and poxvirus.

63. A vaccine of claim 61 wherein the recombinant virus is selected from the group consisting of Aujeszky's disease virus, vaccinia virus, avipox virus, canarypox virus, and swine pox virus.

64. A vaccine of claim 62 wherein the recombinant virus is selected from the group consisting of Aujeszky's disease virus, vaccinia virus, avipox virus, canarypox virus, and swine pox virus.

65. A method for inoculating against porcine parvovirus and porcine circovirus comprising administering to a porcine a vaccine as claimed in claim 38.

66. A kit for preparing the vaccine of claim 38 comprising (i) the at least one porcine parvovirus antigen and (ii) the at least one porcine circovirus antigen, wherein (i) and (ii) are packaged separately.

67. The kit of claim 66 wherein the porcine circovirus antigen comprises at least one porcine circovirus type II antigen.--

Please cancel claims 1-37, without prejudice, without admission, without surrender of subject matter, and without any estoppel as to equivalents.

### REMARKS

Claims 38-67 are now pending. They parallel the claims allowed in the parent application. No new matter is added. By this Amendment, there is now 1 independent claim and 30 claims in total. The filing fee has been calculated accordingly. As to the sequence listing, it is stated that the sequence listing in this application is the same as in prior parent application Serial No. 09/347,594, filed September 13, 1999. It is respectfully requested that the U.S. PTO use the electronic version of the sequence listing in that prior application, making any necessary changes therein for this application, e.g., as to Serial Number and filing date; and, a copy of the hard copy of the sequence listing filed in that prior application is submitted herewith.

It is believed that the Sequence Listing conforms to the requirements of 37 C.F.R. §1.823(b). The Statements required by 37 C.F.R. §1.821(f) and (g) are set forth below.

Pursuant to 37 C.F.R. §1.821(g), the undersigned attorney of record hereby states that this submission, filed in accordance with 37 C.F.R. §1.821(g), does not contain new matter. Pursuant to 37 C.F.R. §1.821(f), the undersigned attorney hereby states that the content of the paper copy submitted herewith, and the computer readable copy of the Sequence listing submitted in U.S. Serial No. 09/347,594 in accordance with 37 C.F.R. §1.821(c) and (e), respectively, are the same.

In view of the amendments, remarks and enclosures herewith, the application complies with the requirements for computer readable disclosure of the biological sequences under 37 C.F.R. §1.821-1.825.

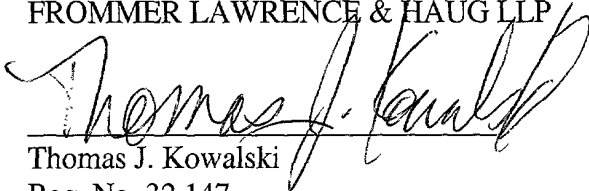
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Early and favorable examination of the application, on the merits, is earnestly solicited.

Respectfully submitted,

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Encs. - Abstract  
- Sequence Listing

1031-2338.1

**ABSTRACT OF THE DISCLOSURE**

Disclosed and claimed is: a vaccine for inducing in an avian host an immunological response against avian pathologies containing at least one plasmid that contains and expresses *in vivo* in an avian host cell nucleic acid molecule(s) having sequence(s) encoding antigen(s) of the avian pathogen(s); and, methods for using and kits employing such compositions.

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